

**REMARKS**

In the Office Action, claims 1, 3-20, 22-28, and 30-35 were rejected. Claims 1, 3-20, 22-28, and 30-35 remain pending. Applicants request reconsideration of the pending claims.

**I. Claim Rejections – 35 USC 112**

Claims 10, 12, 25, and 33 were rejected under 35 USC 112, second paragraph, as being indefinite. As provided in the MPEP, the essential inquiry pertaining to the definiteness requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. (MPEP 2173.02.) The tests for definiteness are “whether the claim apprises one of ordinary skill in the art of its scope” and whether “a person of ordinary skill in the art could...interpret the metes and bounds of the claim.” (MPEP 2173.02.)

**A. Claim 10**

With respect to claim 10, the Examiner asserts that it is unclear as to the relationship and meaning behind “global search algorithm.” Applicants assert that global search algorithms are well known to those skilled in the art, particularly in the field of statistical analysis. Thus, the use of the term “global search algorithm” in claim 10 would be well understood by one skilled in the art.

In rejecting claim 10 under 35 USC 112, second paragraph, the Examiner states, “[t]here is no description in the specification in which one of ordinary skill in the art would understand the term and relationship to the limitations of the claim.” Applicants note that MPEP 2163, which relates to the written description requirement, states that, “[i]nformation which is well known in the art need not be described in detail in the specification.” Applicants assert that global search algorithms are well known and do not need to be described in order for one skilled in the art to understand the term.

**B. Claims 12, 25, and 33**

With respect to claims 12, 25, and 33, the Examiner asserts that the term “smaller in size than a fully library to be generated” is a relative term which renders the claim indefinite. The Examiner asserts that the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The Examiner further asserts that there is no specification for the size of the full library.

Claims 12, 25, and 33 recite that the mini-library is smaller in size than a full library. If “smaller in size than” is the relative term, then the standard for ascertaining the requisite degree is the “full library.” One skilled in the art would understand that there is a mini-library, a full library, and that the mini-library is smaller in size than the full library. The standard for definiteness does not require that an absolute size of the full library or the mini-library be disclosed. Instead, it is sufficient that one of skilled in the art would appreciate that whatever size a full library or mini-library may be, the mini-library is smaller than the full library.

**II. Claim Rejections – 35 USC 102**

Claims 1, 3, 4, 5, 8, 10, 11, 18-20, 22-24, 27, 28, 31, 32, and 35 were rejected under 35 USC 102(a) as being anticipated by US Patent No. 5,963,329 (the Conrad reference). (These claims were rejected under 35 USC 103(a) on page 3 of the Office Action. However, Applicants believe this to have been a typographical error. As such, the present response assumes that the rejection was under 35 USC 102.)

Claims 1, 20, and 28 recite sample diffraction signals obtained from measured diffraction signals, which are obtained from a plurality of locations on the wafer. Claims 1, 20, and 28 also recite a sample index that corresponds to a number and spacing of the diffraction signals (i.e., the measured diffraction signals). The sample index is adjusted when a determined cost distribution does not meet a cost criterion.

The Examiner cites to Figure 13a of the Conrad reference as disclosing a plurality of structures. Applicants note that claims 1, 20, and 28 do not merely recite multiple structures. Instead, as mentioned above, claims 1, 20, and 28 recite that sample diffraction signals are obtained from measured diffraction signals obtained from a **plurality of locations on the wafer**. The Conrad reference only discloses obtaining a single measured intensity which is compared to a predicted diffracted radiation intensity. In particular, FIG. 10 shows multiple structures, but it also clearly depicts that a single measured intensity is obtained. Thus, the cited portion of the Conrad reference does not disclose sample diffraction signals obtained from measured diffraction signals, which are obtained from a plurality of locations on the wafer.

The Examiner cites to Table 1 of the Conrad reference as disclosing the sample index. As mentioned above, claims 1, 20, and 28 recite that the sample index corresponds to a number and spacing of the diffraction signals (i.e., the measured diffraction signals, which were obtained from a plurality of locations on the wafer). Column 6, lines 20-23 disclose, “Table 1 illustrates an initial estimate (seed) of the **basic shape** of the upper sub-profile of the “S”-**shaped profile** as a table of layer index, X-position, and slab thicknesses ( $d_i$ ).” (Emphasis added.) Thus, Table 1 discloses parameters of a seed profile and not a predicted diffracted radiation intensity. Thus, the cited portion of the Conrad reference does not disclose a sample index that corresponds to a number and spacing of the diffraction signals (i.e., the measured diffraction signals, which were obtained from a plurality of locations on the wafer).

Therefore, Applicants assert that claims 1, 20, and 28 are allowable over the Conrad reference. Applicants also assert that claims 3, 4, 5, 8, 10, 11, 18-19, 22-24, 27, 31, 32, and 35 are allowable for at least the reason that they depend from allowable independent claims.

### **III. Claim Rejections -35 USC 103**

Claims 6, 7, and 9 were rejected under 35 USC 103(a) as being unpatentable over the Conrad reference. These claims depend from claim 1, which Applicants assert are allowable over

the Conrad reference. Thus, Applicants assert that they are allowable for at least the reason that they depend from an allowable independent claim.

Claims 12-17, 25, 26, 33, and 34 were rejected under 35 USC 103(a) as being unpatentable over the Conrad reference in view of US Patent No. 6,952,818 (the Ikeuchi reference). These claims depend from claims 1, 20, and 28, which Applicants assert are allowable over the Conrad reference. Thus, Applicants assert that they are allowable for at least the reason that they depend from allowable independent claims.

**IV. Conclusion**

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 509982005600. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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